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UTILITY MODEL APPLICATION PUBLICATION OF JAPAN

(11)Publication number : **57-57853**
(43)Date of publication of application : **05.04.1982**

(51)Int.Cl. **A 62 B 18/08**

(21)Application number : **55-134698**
(22)Date of filing : **24.09.1980**

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(54) **PROTECTION MASK**

2. Claims

1. A protection mask comprising a concave groove for partitioning a sealing surface along the longitudinal direction on the sealing surface in contact with a facing surface of a mask main body.

2. The protection mask according to claim 1, wherein the concave groove is connected to pressurization means capable of bringing the inside of the concave groove under positive pressure relative to the outside air at the time of putting the protection mask on a face.

3. Detailed Description of the Invention

The present invention relates to a protection mask, particularly to a protection mask having a sealing structure for preventing the outside air from coming in from a face contact portion of the protection mask at the time of putting the mask on a face.

Conventionally, in a nuclear power station and the like, in a case where a person goes into a place with high radioactive concentration in the air, the person is obliged to wear a protection mask in order to prevent an intake of radioactive substances by inhalation. Such a protection mask includes a whole surface mask for covering the whole face and a half surface mask for only covering an area around a mouth and a nose. However, since a sealing structure of a face contact portion of the protection mask is single-layered in any protection mask, the outside air comes into the inside of the mask at the time of inhaling the air from a gap generated due to the movement of the facing surface or the like at the time of putting the mask on the face,

and hence there is a risk of causing inhalation of the radioactive substances.

Even if the intake of the radioactive substances is in extremely small quantities, the radioactive substances are accumulated in a body so as to cause internal exposure over a long period of time. Therefore, the face contact portion of the protection mask is desirably completely sealed.

The present invention has been made in consideration with the above situation, and an object thereof is to provide a protection mask having a sealing structure for blocking the outside air from coming in from a gap generated in a face contact portion of the protection mask so as to prevent a person wearing the protection mask from internal exposure or the like due to radioactive substances. The above object is achieved by a protection mask provided with a concave groove for partitioning a sealing surface along the longitudinal direction on the sealing surface of a mask main body in contact with a facing surface so as to doubly block the gap between the protection mask and the outside air.

Hereinafter, one embodiment of the present invention will be described with using the figures. Fig. 1 is a side view showing an outer appearance of a protection mask 1 of the present invention. Fig. 2 is a sectional view by the line A-A' in Fig. 1.

In the figures, on a sealing surface 2 of the protection mask 1 in contact with a facing surface, a concave groove 3 for dividing the sealing surface 2 into two along the longitudinal direction is formed so as to provide double sealing over the entire periphery. The reference numerals 4 and 5 denote an inner sealing portion and an outer sealing portion formed by the concave groove 3.

A material having a stretching property which is easily closely adhered to a face 6 such as rubber and plastic is used as a sealing member forming the inner sealing portion 4 and the outer sealing portion 5.

It should be noted that although omitted in the figure, the concave groove 3 is connected to pressurization means capable of bringing the inside of the groove under higher pressure than the outside air at the time of putting the protection mask on a face such as a tank, or pressurized by the air or the like at the time of exhalation. Thereby, it is possible to completely prevent the outside air from coming in.

As mentioned above, the protection mask of the present invention is doubly sealed by attaching the inner sealing portion and the outer sealing portion to the facing surface so as to closely adhere both the sealing portions to the facing surface. Even in a case where the gap is generated in the contact portion with the facing surface due to the movement of the facing surface at the time of putting the mask on the face, it is

possible to block the outside air from coming in. Therefore, there is a great effect in improving safety at the time of putting the mask on the face.

Alternatively, by connecting the pressurization means to the inside of the concave groove formed in the face contact portion, there are advantages such as completely preventing the outside air from coming in even in a case where the gap is generated between the outer sealing portion and the face. It should be noted that although the example that the concave groove 3 is a single groove so as to achieve a double sealing structure is described in the above embodiment, the present invention is not limited to the embodiment. For example, the concave groove may be doubly formed and the sealing surface may be triply formed.

4. Brief Description of the Drawings

Fig. 1 is a side view of a protection mask according to the present invention. Fig. 2 is a sectional view by the line A-A' in Fig. 1.

1: Protection mask
2: Face contact portion
3: Concave groove
4: Inner sealing portion
5: Outer sealing portion
6: Face